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## **Aegis Awarded Patent for Fast Acting Nasal Spray Opioid Blockers and Pain Medications**

### **Aegis' Intravail® formulations of Fast Acting Opioid Blockers and Pain Medications Speed Absorption and Lengthen Time of Drug Overdose Rescue and Pain Relief**

SAN DIEGO, CA February 22, 2018/ NASDAQ Global News Wire -- Aegis Therapeutics LLC announced today that it has been awarded U.S. Patent No. 9,895,444 providing non-invasive metered nasal spray delivery of multiple opioid blockers such as nalmefene, naltrexone, methylnaltrexone and naloxone for rescue therapy in opioid overdose, as well as opioid pain medications such as morphine, buprenorphine, and nalbuphine, among others.

In early February it was reported by Aegis' exclusive worldwide licensee for nalmefene, naloxone, and naltrexone, Opiant Pharmaceuticals Inc. (NASDAQ: OPNT), that the National Institute on Drug Abuse (NIDA) conducted a Phase I nasal nalmefene study under a clinical trial agreement with Opiant. The study demonstrated that an intranasal nalmefene formulation containing Aegis' proprietary absorption enhancer (Intravail®) resulted in rapid increases in plasma levels with an onset faster than an intramuscular injection and a comparatively long half-life (6.7-7.8 hours).

Earlier Opiant studies conducted jointly with NIDA on nasal Naloxone led to the approval of Opiant's NARCAN® Nasal Naltrexone Spray, the first generation rescue therapy that is approved for marketing in the U.S. and Canada by Opiant's partner, Adapt Pharma Limited. Naloxone, the only FDA medication currently approved to treat opioid overdose, has a half-life of only approximately 2 hours. The long duration of action of many opioid analgesics such as fentanyl, and the brief effectiveness of naloxone results in the risk of a potential recurrence of a lethal overdose after a few hours in an already rescued patient. As a result, the NCBI recommends a 4-6 hour observation period from the time of first naltrexone administration.

In the case of acute pain control situations such as battlefield injury and domestic emergency situations, morphine or fentanyl administration has proved challenging and inadequate in many circumstances due to slow absorption and a large hepatic first-pass effect delaying onset of relief. Oral administration is ineffective for emetic patients. Intramuscular injection is slightly faster, but has high variability in absorption and can result in tissue depot effects, leading to possible under or overdosing, and is less effective in shock situations when blood flow is limited in peripheral tissues. While intravenous administration is the preferred method of opioid delivery, it requires trained personnel to initiate, and proves challenging in situations where venous access is not available due to shock, hypovolemia, or venous injury from frequent IV medication use. The ability to deliver these and other critical pain medications intranasally without venous access provides a breakthrough in achieving rapid pain control.

## **About Aegis Therapeutics**

Aegis Therapeutics LLC is a drug delivery technology company commercializing its patented drug delivery and drug formulation technologies through product-specific licenses. Our Intravail® drug delivery technology enables the non-invasive delivery of a broad range of protein, peptide and non-peptide drugs that can currently only be administered by injection, via the oral, buccal, and intranasal administration routes, and with high bioavailability. Our ProTek® excipients stabilize, prevent aggregation, and reduce unwanted immunogenicity of protein and peptide therapeutics while avoiding the oxidative damage and anaphylaxis caused by polysorbate surfactants.

For more information about Aegis, please visit: <http://www.aegisthera.com>.

## **About Opiant Pharmaceuticals, Inc. (“Opiant”) ([OPNT](#))**

Opiant Pharmaceuticals, Inc., is a specialty pharmaceutical company developing pharmacological treatments for addictions and eating disorders. NIDA, a division of the National Institutes of Health (NIH), describes these disorders as chronic relapsing brain diseases which burden society at both the individual and community levels. With its innovative opioid antagonist nasal delivery technology, Opiant is positioned to become a leader in these treatment markets. Its first product, NARCAN® Nasal Spray, is approved for marketing in the U.S. and Canada by the company’s partner, Adapt Pharma Limited. For more information please visit: [www.opiant.com](http://www.opiant.com).